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STUDENT NUMBER						Letter
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PSYCHOLOGY

Written examination 2

Thursday 5 November 2009

Reading time: 9.00 am to 9.15 am (15 minutes)

Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

Section	Number of questions	Number of questions to be answered	Number of marks
A	44	44	44
B	18	18	46
			Total 90

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
No calculator is allowed in this examination.

Materials supplied

- Question and answer book of 19 pages.
- Answer sheet for multiple-choice questions.

Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, and sign your name in the space provided to verify this.
- All written responses must be in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

AREA OF STUDY 2 – LEARNING

Question 23

Which of the following behaviours is not dependent on learning?

- A. avoidance of a food that made you sick the last time you ate it
B. salivating at the sound of a bell
C. blinking when air is blown into your eyes
D. talking with friends

Question 24

The mating dance of a bird is an example of

- A. a reflex action.
- B. a fixed-action pattern.
- C. operant conditioning.
- D. generalisation.

Question 25

Claudia conducted an experiment to see if babies could be taught to walk earlier than babies left to learn to walk on their own. She divided the 8-month-old babies from a childcare centre randomly into Group A (twenty-five babies) and Group B (twenty-five babies). For two hours each day, Group A babies were exercised by moving their legs in a walking motion and were put in a play area with other children who were walking around. Group B babies spent two hours each day in unstructured play where they could crawl around freely. The babies in Group B were not in a play area with other children. The age at which each baby first walked was then recorded, and a mean walking age determined for each group.

What was Claudia most likely to find?

- A. The mean age at which children in both groups walked was the same because walking is a behaviour that develops through maturation.
- B. Group A developed walking behaviour earlier than Group B because walking is best learned through observation of others.
- C. Both groups walked at the same time, although earlier than the expected age because walking is a behaviour that is learned through conditioning.
- D. Group B developed walking behaviour earlier than Group A because they were allowed to crawl more during the two hour sessions.

Question 26

Question 20
In his experiments, Pavlov referred to dogs salivating in the presence of food as an 'unconditioned response' because

- A. he had not yet discovered conditioning.
- B. salivation is not conditional on the presence of food.
- C. salivation is a controlled response dependent on learning.
- D. salivation is an innate reflex response to the presence of food.

Question 27

In Karlee's Psychology class, she noticed that whenever the teacher moved to the front of the room the class stopped talking and gave their attention to the teacher, who would then start to talk to the class. For a week the teacher moved to the front but did not talk to the class when they became quiet. Karlee noticed that the class no longer became quiet when the teacher moved to the front of the room.

This change in the class's behaviour is an example of

- A. extinction.
- B. reinforcement.
- C. stimulus generalisation.
- D. stimulus discrimination.

Question 28

In an experiment with a rat and a Skinner Box, a food pellet was released every two minutes, regardless of how often the rat pressed the lever.

This is an example of a _____ schedule of reinforcement.

- A. fixed-ratio
- B. fixed-interval
- C. variable-ratio
- D. variable-interval

Question 29

Initially, a young child had no response to a nurse's white uniform. However, the young child received a couple of painful injections from a nurse in a white uniform. Now, the young child reacts with fear to any nurse in a white uniform.

In this example, the sight of the nurse in a white uniform has become _____ to the young child.

- A. an unconditioned response
- B. a conditioned response
- C. a conditioned stimulus
- D. an unconditioned stimulus

Question 30

In classical conditioning, the learner is relatively _____ and in operant conditioning the learner is relatively _____.

- A. passive; passive
- B. passive; active
- C. active; passive
- D. active; active

Question 31

One of the factors crucial to successful classical conditioning is

- A. the order in which the conditioned stimulus and the unconditioned stimulus occur.
- B. the avoidance of punishment.
- C. a variable interval schedule.
- D. positive reinforcement.

Question 32

Brendan was bitten by his neighbour's dog. He now has a fear of his neighbour's dog but is not fearful of other dogs.

This is an example of

- A. operant conditioning.
- B. observational learning.
- C. stimulus generalisation.
- D. stimulus discrimination.

Question 33

Taylor's psychologist wants to use conditioning to help him stop biting his nails. The psychologist decides to paint Taylor's nails with a nasty tasting substance.

The nasty tasting substance in this case is the

- A. punishment.
- B. negative reinforcement.
- C. unconditioned stimulus.
- D. conditioned stimulus.

Question 34

Emma has forgotten the code to the lock on her locker. She tries several different codes randomly, hoping one will be the right one to unlock the padlock.

This behaviour is most likely an example of

- A. trial and error learning.
- B. motivated forgetting.
- C. one-trial learning.
- D. learning set.

Question 35

Which one of the following statements is true regarding positive and negative reinforcement?

- A. Positive reinforcement and negative reinforcement both decrease the likelihood of a response occurring.
- B. Positive reinforcement and negative reinforcement both increase the likelihood of a response occurring.
- C. Positive reinforcement increases the likelihood of a response occurring; negative reinforcement decreases the likelihood of a response occurring.
- D. Positive reinforcement delivers a pleasant consequence for a response; negative reinforcement delivers an unpleasant consequence for a response.

Question 36

An animal learns to press a button in order to turn off an aversive noise.

This is an example of

- A. negative reinforcement.
- B. positive reinforcement.
- C. learned helplessness.
- D. punishment.

Question 37

In operant conditioning, **extinction** occurs if enough conditioning trials occur in which

- A. the response is not followed by the consequence previously associated with it.
- B. the response is generalised to other similar situations.
- C. variable-interval schedules of reinforcement are used as opposed to fixed-interval schedules.
- D. the presentation of the unconditioned stimulus occurs without the presentation of the conditioned stimulus.

Question 38

Every time you order a coffee at your local coffee shop you get a card stamped. After you buy ten coffees you get a coffee for free.

This is an example of which kind of reinforcement schedule?

- A. fixed-interval
- B. variable-interval
- C. fixed-ratio
- D. variable-ratio

Question 39

Thorndike's law of effect is best illustrated by

- A. cleaning your room because you were praised when you did it last time.
- B. a boy learning to change a tyre by watching his father.
- C. blinking when a puff of air is blown into your eye.
- D. being scared of thunder.

Question 40

Thorndike was best known for his studies on

- A. trial and error learning.
- B. observational learning.
- C. classical conditioning.
- D. learning set.

Question 41

One of the key differences between classical and operant conditioning is that

- A. in classical conditioning responses can be extinguished, while in operant conditioning responses cannot be extinguished.
- B. in classical conditioning responses cannot be extinguished, while in operant conditioning responses can be extinguished.
- C. in classical conditioning learning is based on a reflexive response, while in operant conditioning learning is based on voluntary behaviour.
- D. in classical conditioning learning is based on voluntary behaviour, while in operant conditioning learning is based on a reflexive response.

Question 42

Sam vividly remembers an occasion when his older brother Jason was very ill after eating too many chocolates. After this, Sam has never eaten more than one or two chocolates at a time.

The effect on Sam's behaviour of witnessing Jason's illness is an example of

- A. negative reinforcement.
- B. positive reinforcement.
- C. maturation.
- D. modelling.

Question 43

Bandura's Bobo doll studies demonstrated that

- A. children are less willing to imitate the actions of someone they have seen punished for their actions.
- B. children are willing to imitate the actions of someone regardless of the observed consequences.
- C. girls are more likely to imitate aggressive behaviours than boys.
- D. observational learning is less effective with girls than boys.

Question 44

According to Bandura's observational learning theory, the four elements that underlie observational learning (in order) are

- A. attention, retention, reproduction, motivation.
- B. motivation, attention, retention, reproduction.
- C. attention, motivation, retention, reproduction.
- D. motivation, attention, reproduction, retention.

AREA OF STUDY 2 – LEARNING

Question 6

Watson and Rayner's experiment (1920) with Little Albert is famous for advancing our understanding of classical conditioning in humans, and also for the ethical issues it raised.

Describe two ethical principles that the original study would breach if it were carried out today.

1. _____

2. _____

2 marks

Question 7

Two years ago, when she had a virus, Ena ate grapes. A few hours later she felt very sick. Although the virus was the most likely cause of her nausea, whenever Ena sees grapes now she feels nauseous and is unable to eat them.

- a. This form of taste aversion is also known as _____ learning. 1 mark
- b. Explain two differences between this type of learning and the standard principles of classical conditioning.

1. _____

2. _____

2 marks

- c. In this scenario, identify
 - i. the conditioned stimulus
 - ii. the conditioned response
 - iii. the unconditioned response.

1 + 1 + 1 = 3 marks

Question 8

Max is a nine-year-old boy who has learning difficulties. A child psychologist is working with Max. Max continually interrupts their session together by getting out of his seat. The psychologist wants to teach Max to stay in his seat for their half-hour session.

- a. Give an example of how the psychologist could change Max's behaviour using operant conditioning.

- _____
- _____

1 mark

- b. Using the terms of operant conditioning, explain how your method will help Max to learn to stay in his seat.

- _____
- _____
- _____

2 marks

Question 9

Peter has been learning Spanish for four years. Peter changed schools and then had to learn Italian. Peter found Italian a lot easier to learn than he anticipated.

- a. In terms of learning set, explain why Peter may have found learning Italian easy.

- _____
- _____

1 mark

- b. Using a different example, explain how a learning set could negatively impact on new learning.

- _____
- _____
- _____

2 marks

AREA OF STUDY 3 – RESEARCH INVESTIGATION

Read the following research study. All the questions which follow relate to this study.

Doctor Fraser is a university research psychologist. His area of expertise is the development of literacy skills in children.

Doctor Fraser has designed a new literacy program for Grade 4 children in Victoria. It is a 30-minute television literacy program that runs daily for four weeks.

To test this program, Doctor Fraser sent a letter to all parents/guardians of Grade 4 children in Victoria asking for volunteers. The children of the first 100 parents/guardians who replied were accepted into the study.

Prior to the experiment, each participant sat a literacy test (Literacy Test A) administered by their Grade 4 teacher. The teachers then sent the results to Doctor Fraser.

Participants were put into 50 pairs based on gender and the similarity of their scores on the literacy test (Literacy Test A).

A computer program was used to select, by chance, one member of each pair to undertake the literacy program. These participants had to watch the literacy program on television for 30 minutes each day for four weeks. The other member of the pair was allowed to watch cartoons of their choice for 30 minutes per day for four weeks.

At the end of four weeks, the participants' Grade 4 teachers administered a second literacy test (Literacy Test B) and sent the results to Doctor Fraser.

Results between the two groups were then compared. A test of significance was calculated and $p > 0.05$.

All ethical guidelines were strictly followed.

Question 10

Write an appropriate operational hypothesis for this study.

2 marks

Question 11

Name the independent variable and the dependent variable in this study.

Independent variable

Dependent variable

2 marks

Question 12

Were the participants in this study randomly allocated? Explain what is meant by random allocation.

2 marks

Question 13

a. Name the experimental research design that was used in this study. In terms of this study, explain your answer.

2 marks

b. Name one other experimental design. What is one disadvantage of this experimental design compared to the experimental design that Doctor Fraser has used?

2 marks

Question 14

The researcher set the level of significance at 0.05. What does a level of significance of 0.05 mean?

1 mark

Question 15

Was there a statistically significant difference between the results of the two groups of participants?

1 mark

Question 16

Outline one uncontrolled variable that could potentially confound the results and describe how it could affect the results.

Uncontrolled variable _____

Possible effect on results _____

2 marks

Question 17

In terms of participant selection, should these results be generalised? Explain your answer.

2 marks

Question 18

Parents/guardians and participants were debriefed after this study.

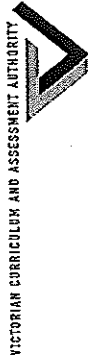
Outline two pieces of information that the researcher must give during the debriefing process.

1. _____

2. _____

2 marks

2009 Assessment Report



2009

Psychology GA 3: Examination 2

GENERAL COMMENTS

Students performed well on the Multiple-choice section of the 2009 Psychology exam paper. Responses to the Short answer section showed a greater spread of achievement. The scores in the Short answer section (overall mean 55%) were 'Memory' (59%), 'Learning' (54%) and 'Research Methods' (54%). In the Multiple-choice section, the mean scores were 'Memory' (81%) and 'Learning' (83%).

Students are encouraged to respond to each question. Leaving a line blank increases the likelihood that later answers on the computer-scored sheet will be out of synchronisation and further marks may be lost. It is advised that use of a ruler, moved down the page as each question is answered, will help to ensure that the correct response line is being completed.

In the Short answer section, some students failed to address the specific instructions in questions, for example, 'According to the semantic network theory' (Question 2), '... using the method of loci' (Question 3), 'Using the terms of operant conditioning ...' (Question 8b) and 'Using the terms of ...' (Question 9b). Students also struggled to relate their answers to the specific scenarios described in the questions, for example, 'Max' in Question 8 and 'Pete' in Question 9a. Students appeared to have some difficulty interpreting questions and often did not gain marks due to a lack of precision in their responses. In both the Memory and Learning Areas of Study, the mean score on the Multiple-choice section was, as in previous years, substantially superior to the mean score on the equivalent Short-answer section.

Often in Psychology examinations students will be asked for two pieces of information or two examples. Students must ensure that two pieces of information are given in questions such as this. In Question 12 of Area of Study 3, students were required both to state whether or not participants had been randomly allocated and to explain this answer. Students who did not complete both parts therefore could achieve only one of the two marks.

Almost all questions requiring two parts to an answer showed two separate response spaces on the answer booklet.

All questions in Area of Study 3 required reference to the research study described in the question, as stated in the instructions on the examination paper. Generic answers cannot show clear understanding and interpretation of the specific research study and thus cannot gain full marks.

Students are reminded that while slight spelling errors are not penalised, the meaning must be clear and unambiguous. Substitution of another word, which therefore changes the meaning, is not allowed.

SPECIFIC INFORMATION

Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	Comments
Area of Study 1 – Memory					
1	83	10	2	87	
2		2	13	2	
3	16	4	13	66	Option A eliminated the possibility of storing information from long-term memory, and option B indicated that short-term memory lasts for about 30 minutes – both of which are incorrect. Option C referred to sensory information; if sensory information is retained it can only be in sensory memory as the first encoding must occur when paying attention in order to transfer information into short-term memory.
4	1	98	1	0	
5	19	10	1	70	Many students chose option A; this shows the importance of reading all options, even though the first option may appear to be a possible correct response.
6	2	92	2	3	
7	2	3	88	8	
8	4	5	6	84	
9	7	3	86	3	
10	62	12	10	17	
11	19	58	4	20	Procedural memory shows little or no decline with age.
12	74	10	4	11	
13	2	2	13	83	
14	3	6	13	78	
15	3	6	11	80	
16	89	1	6	4	
17	1	4	82	13	
18	36	7	4	3	
19	93	5	1	0	
20	2	83	6	9	
21	96	2	0	1	
22	59	5	22	4	Anterograde (option D) and retrograde (option B) are terms used to nominate different types of amnesia, not interference. Students who chose option D correctly identified that the difficulty related to newer learning but incorrectly identified amnesia.
Area of Study 2 – Learning					
23	1	2	89	8	
24	2	96	1	1	
25	87	11	1	1	
26	1	4	3	92	
27	85	5	5	5	
28	11	83	3	3	
29	2	10	85	3	
30	1	88	9	1	
31	86	2	3	8	
32	4	2	4	90	

Question	% A	% B	% C	% D	Comments
33	53	31	23	11	Options A and C were accepted as correct responses. If the conditioning was considered as 'operant' then the answer must have been 'A'; if the conditioning is 'classical' then the answer was 'C'. Option B was not a correct response. Negative reinforcement refers to strengthening a response or increasing the frequency of the response.
34	97	1	1	1	Reinforcement strengthens a response. It was clear that students who chose option C lacked understanding of this basic fact.
35	2	70	18	11	
36	77	18	4	1	Students who chose option D showed a lack of understanding of the principles of classical conditioning. The unconditioned stimulus elicits the unconditioned response – this is the reflexive response that is an essential feature of classical conditioning.
37	71	2	5	21	
38	11	5	78	5	
39	84	10	4	2	
40	76	12	6	6	
41	3	3	87	7	
42	11	2	2	85	
43	78	19	1	2	
44	77	6	15	2	

Section B – Short answer questions

For each question, an outline answer (or answers) is provided. In some cases the answer given is not the only answer that could have been awarded marks.

Area of Study 1 – Memory

Question 1a.			
Marks	0	1	Average
%	18	82	0.8
Anterograde			

Students were required to give a single-word answer – other words were not permitted.

Question 1b.			
Marks	0	1	Average
%	14	86	0.9
Procedural memories			

Question 2a.			
Marks	0	1	Average
%	37	23	40
1.1			

Each concept (node) linked to other related nodes in a hierarchical manner. Three essential aspects of semantic network theory are:

- hierarchical structure
- nodes
- links.

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Question 2b.

Marks	0	1	Average
%	59	41	0.4

We search long-term memory for one piece of information which then leads to retrieval of related information through the links.

Question 2c.

Marks	0	1	Average
%	55	45	0.5

The shorter the link between nodes in the network, the stronger the association between them and the less time it takes to retrieve related concepts. Therefore, the more closely your retrieval cue is linked to the memory you are trying to retrieve, the faster you will retrieve it.

Question 3

Marks	0	1	2	3	Average
%	39	28	20	13	1.1

Method of Loci: visually imagine each object located at a different place in a familiar room or along the route of a well-known journey

To recall the objects, mentally retrace that route.

For example, imagine your route to school and visualise a bar of chocolate at your front gate, a huge head of hair on the pedestrian crossing supervisor, an elephant waiting at the intersection, a view of the beach from the school yard and a giant hand pointing to your classroom. When you wish to retrieve the list, imagine your route to school and the various locations will act as retrieval cues for the items you have visually linked to the locations.

For full marks it was essential that a response demonstrated:

- visualisation process
- method of visualising to assist encoding
- method of visualising to assist retrieval
- all five items are required in order as instructed in the question.

Question 4

Marks	0	1	2	Average
%	13	28	59	1.5

Group 2: Generating a word similar in meaning to those in the list enables better storage of the word in a semantic network of long-term memory. The new words will act as retrieval cues for the original list.

Group 1 used maintenance rehearsal whereas Group 2 used elaborative rehearsal, a more effective way of encoding information in long-term memory.

Question 5a.

Marks	0	1	Average
%	35	65	0.7

The unconscious blocking of memory of an experience from conscious awareness (because of the distressing or disturbing nature of the experience)

Students were not awarded marks if they used the term 'repressed' in their response without explanation. Responses such as 'repression is when memories are repressed unconsciously' did not gain a mark.

Question 5b.

Marks	0	1	Average
%	34	66	0.7

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Repression refers to the unconscious blocking of memory of an experience, whereas suppression refers to a conscious process.

Question 5c.

Marks	0	1	Average
%	10	90	0.9

Motivated

Area of Study 2 – Learning

Question 6

Marks	0	1	2	Average
%	9	41	50	1.4

Two of:

- no harm principle: Albert suffered psychological damage that was not reversed
- voluntary participation: it is unlikely that Albert's mother was aware that he was the subject of the experiment
- informed consent: Albert's parent(s) was not told what would be involved in the experiment and did not agree that he could take part
- withdrawal rights: Albert was not allowed to leave the experimental situation
- debriefing: Albert's parent(s) was not told what had been discovered and was not informed of how they could receive assistance reversing any harmful effects on Albert
- beneficence: the importance of the findings was not sufficient to outweigh the harm done to Albert
- confidentiality: the film was publicly released and Albert's first name and the initial letter of his family name were well known.

It was essential that the named ethical consideration matched the description.

Question 7a.

Marks	0	1	Average
%	15	85	0.9

One trial or single trial

Question 7b.

Marks	0	1	2	Average
%	36	27	37	1

Two of:

- classical conditioning usually takes several pairings of two stimuli for learning to occur, whereas one-trial learning only takes one pairing
- in classical conditioning, the conditioned response occurs immediately after the conditioned stimulus (or neutral stimulus) and unconditioned stimulus pairing. In one-trial learning, the conditioned response can occur a long time after the conditioned stimulus
- one-trial learning does not usually generalise the conditioned stimulus to other similar stimuli, whereas classical conditioning does generalise
- the response (unconditioned response) of feeling ill is very powerful. In one-trial learning, the conditioned response is very difficult to extinguish. It is easier to extinguish in classical conditioning.

Question 7c.

Marks	0	1	Average
%	78	22	0.2

Sight of grapes

Question 7d.

Marks	0	1	Average
%	59	41	0.4

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The feeling of nausea at the sight of the grapes

Question 7ciii.

Marks	0	1	Average
%	74	26	0.3

The feeling of nausea due to the virus

It was essential to differentiate the conditioned response (nausea due to grapes) from the unconditioned stimulus (nausea due to virus).

Question 8a.

Marks	0	1	Average
%	20	80	0.8

- Either of:
- Max could be rewarded with a sticker for every five minutes he remained in his seat (positive reinforcement)
 - Max could be scolded when he gets out of his seat (punishment).

Question 8b.

Marks	0	1	2	Average
%	27	27	45	1.2

- Either of:
- the psychologist gives Max a sticker for every session he does not get out of his seat. The sticker acts as a positive reinforcer to encourage the behaviour of staying in his seat
 - the psychologist scolded Max when he tried to leave his seat. This acted as punishment, making it less likely that Max would repeat the behaviour.

Many students continue to confuse negative reinforcement (which strengthens a response) with punishment (which weakens a response).

Question 9a.

Marks	0	1	Average
%	55	45	0.5

Positive transfer occurs where learning in one situation enables learning in a new situation to be quicker and/or easier. In learning Spanish, Peter may have developed skills in learning vocabulary or grammatical structures and these skills improve his ability to learn Italian.

Question 9b.

Marks	0	1	2	Average
%	39	45	16	0.8

Petra learned to play netball and became skilled in a few weeks. Later her friends persuaded her to try basketball but she found it difficult to learn to run and dribble the ball because she was used to 'stopping and propping'.

The emphasis must have been on learning to learn. Students did not get full marks for simply indicating that there are different skills required, so Petra would not be as good at basketball as she was at netball. For full marks the answer needed to clearly demonstrate that the negative transfer affects the ability to learn, not simply the ability to perform.

Area of Study 3 – Research Investigation

Question 10

Marks	0	1	2	Average
%	24	16	61	1.4

Grade 4 children in Victoria who watched the literacy program on television will show a greater increase in literacy skills (operationalised as difference in score between literacy tests A and B) than participants who watched cartoons of their choice.

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An operational hypothesis is a stated prediction of the outcome of the experiment that includes:

- statement of the population
- statement of the independent variable (IV)
- statement of the dependent variable (DV)
- operationalisation of the dependent variable.

If the independent variable was continuous it would also be operationalised.

A correct response included appropriate operationalisation of the dependent variable and statement of the population, the independent variable and dependent variable.

Students needed to demonstrate their understanding of the concept of operationalisation and their understanding that a hypothesis is a statement of the predicted effect of a change in the independent variable on the value of the dependent variable.

A hypothesis cannot be expressed as a question; some students continue to make this error.

Question 11

Marks	0	1	2	Average
%	16	16	68	1.5

Independent variable: watching the literacy program or watching cartoons of choice

Dependent variable: literacy skills in children (operationalised as improvement in score on test B compared with test A)

Question 12

Marks	0	1	2	Average
%	27	23	50	1.3

Yes. The computer placed, by chance, one of each pair in each of the groups. Each participant had an equal chance of being in either group.

Question 13a.

Marks	0	1	2	Average
%	31	16	53	1.2

Matched participants (matched pairs) or matched subjects. Participants were matched based on similar literacy skills (score on test A) and gender. One participant was then allocated to E group and the other to C group.

Question 13b.

Marks	0	1	2	Average
%	32	20	49	1.2

Independent groups disadvantage

- need more participants for the same strength of results
- participant variables such as gender and literacy skills are not controlled

Repeated measures disadvantage

- order effects such as learning or boredom may interfere with results
- more time would be needed (an extra four weeks)

Question 14

Marks	0	1	Average
%	81	20	0.2

There is a 5 in 100 (or 1 in 20, or 5 per cent) probability that the results are due to chance alone.

Many students misunderstood the meaning of the term 'probability'. It does not mean that five times in 100 this result will occur by chance. The question was 'What does a level of significance of 0.05 mean?'; however, many students answered as if the question read 'What does $p < 0.05$ mean?'.

Question 15

Marks	0	1	Average
%	41	59	0.6

No

Question 16

Marks	0	1	2	Average
%	38	19	43	1.1

In this question students needed to name one uncontrolled variable and then explain how this variable affected results.

Question 17

Marks	0	1	2	Average
%	35	27	39	1.1

No, these results should not be generalised.

Any of:

- participants were selected according to who volunteered in the first 100
- participants were not randomly selected
- not every Grade 4 child had an equal chance of being selected.

Question 18

Marks	0	1	2	Average
%	39	53	8	0.7

- full explanation of the findings in this study
- information about where and how to seek psychological help (counselling) if needed
- the right to withdraw data after the experiment

Debriefing takes place **after** the research has been concluded and conclusions have been drawn. Many students indicated that participants should be told what would be involved in the research, for example, incorrectly implying that debriefing occurs **before** the research.

There was **no** deception involved in this research, so comments relating to deception were irrelevant.